

Main Street Bridge
Spanning the Fox River at Illinois Route 72
Vicinity of West Dundee
Kane County
Illinois

HAER No. IL-128

HAER
ILL
45-WEDUN-V,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Rocky Mountain Regional Office
National Park Service
P.O. Box 25287
Denver, Colorado 80225-0287

HAER
ILL
45-WEDUN-V,
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**HISTORIC AMERICAN ENGINEERING RECORD
MAIN STREET BRIDGE
VICINITY OF WEST DUNDEE
KANE COUNTY, ILLINOIS**

I. INTRODUCTION

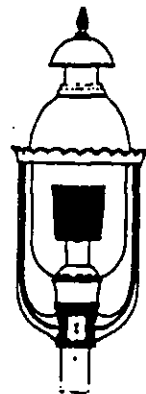
Location: Spanning the Fox River at Illinois Route 72 in Dundee Township, Kane County, Illinois. The bridge is located between the incorporated villages of West Dundee and East Dundee.

Date of Construction: 1917 - 1918

Except for resurfacing, the only visual change to the Main Street Bridge occurred in 1983 when the ten light fixtures were changed from an "acorn" style to a "colonial" style. The posts were not changed.



original acorn style



1983 colonial style

Present Owner:

The Main Street Bridge in Dundee Township is part of Illinois State Route 72 and is, therefore, owned and maintained by the Illinois Department of Transportation c/o the Division of Highways, District 1, 201 West Center Court, Schaumburg, Illinois 60196-1096. The bridge structure number is 045-0013.

Present Use:

The Main Street Bridge is a vehicular and pedestrian bridge between East Dundee and West Dundee. It is to be replaced with a new vehicular and pedestrian bridge at the same location.

Significance:

The Main Street Bridge is one of only two bridges which crosses the Fox River in Dundee Township. It is a contributing structure to the Dundee Township Historical District and is the only bridge of its style and engineering type in the State of Illinois.⁽¹⁾

II. HISTORY

The earliest bridge in the Dundee Township area across the Fox River was built on the present site of the Main Street Bridge in 1839. It was a subscription bridge, and apparently two attempts were made before sufficient funds were raised for construction. The subscription lists show several individuals from the Oatman and Dewesse families, who together gave over half the funds needed.⁽²⁾

The Dewesses owned a mill which stood on East Main Street and the Oatmans owned a store, hotels and other buildings at West Main Street. Their interest in a bridge stemmed from a desire to replace the ford at this location.

Over \$1,500 was raised for the construction of the bridge by Messrs. George Hoit, Edward Austin and Thomas Thompson, according to an 1838 accounting of the bridge committee.⁽³⁾ This bridge stood until 1871 when it was swept away in the spring by heavy rains causing a high and rapid water condition, due to rapid melting of snow and ice. The bridge built in 1871 lasted a short time and was replaced in 1877 with a bridge having a wood deck and iron sides.

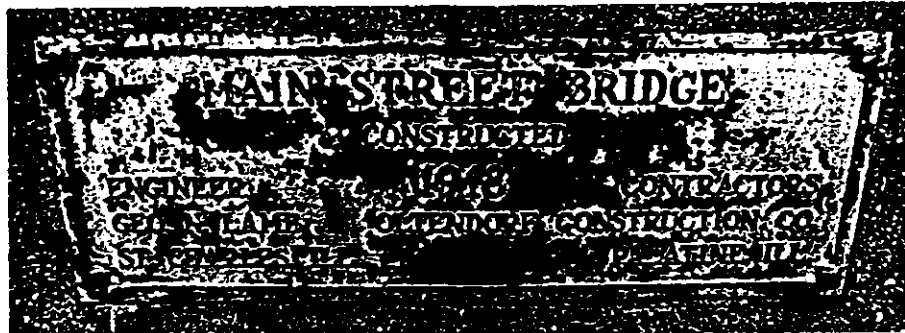
In 1916, a West Dundee "Bridge Committee" had declared the iron and wood bridge built in 1877 to be unsafe and were confident that the state would condemn the structure if voters did not approve a bond issue for a new bridge. In fact, both state and county officials inspected the bridge and deemed it unsafe and "defective in several points."⁽⁴⁾ The cost of

repairing the structure was determined to be almost half that needed for a new bridge.

The West Dundee Village Board authorized the construction of a "reinforced cement concrete bridge" in March of 1917, with the costs to be split with East Dundee.⁽⁵⁾ The new Main Street Bridge was completed in 1918.

Today, the concrete bridge built in 1917-18 is included in an area to be improved from Beverly Road in East Dundee to Second Street in West Dundee. As one of only two bridges in Dundee Township, the Main Street Bridge has become a bottleneck, carrying 31,500 vehicles each day. By the year 2010, it is expected that the vehicle count will be about 68,000.⁽⁶⁾

The existing Main Street Bridge was designed by St. Charles, Illinois engineer George N. Lamb. The contractor was Oltendorf Construction Company of Palatine, Illinois.



III. DESIGN

Engineer George N. Lamb of St. Charles designed the bridge as a four-span concrete, T-beam structure. Each of the sixty foot spans is made up of six inverted arches. Composite steel and concrete construction is used which is common for most highway spans of medium length (40 to 90 feet). The Main Street Bridge in Dundee Township is unique, however, because of its inverted arch appearance. Also, it is a cast in place concrete structure while more recently constructed T-beam structures are made of pre-cast concrete. T-beam bridge structures were particularly popular for bridges built in the 1920's and 1930's.

In the composite construction with reinforcing steel, the concrete deck is made to act integrally with the girders. Often the T-beam bridge is called

a "deck girder" bridge for this reason. The Main Street Bridge consists of six parallel girders in each span supporting a floor slab. The slab was poured monolithically with the girders. The interior girders are T-beams with 3'-1" wide stems, about 4'-4" deep at center span. The outside girders are 2'-5" wide but are about 6'-5" deep at center span. The deck slab is 9" thick at the center. Originally, the finished pavement was creosoted wood blocks, 3 1/2" thick on top of a 1/2" mortar cushion on top of the concrete deck.

The web reinforcement in the stems of the T-beams is heavily weighted at the lower part of the girders. The outside girders have seventeen steel reinforcing bars running their length. The next one in from the edge has twenty-two bars and the middle two girders have nineteen bars.

The rails of the Main Street Bridge are unique in design. The concrete abutments are capped with a concrete base for the decorative light fixtures. At the intermediate concrete posts (balusters) there is not light fixture. Each span has two intermediate posts. The railing sections have an integral concrete base and a formed concrete cap. A brick infilled railing with decoratively shaped "cut-outs" make a fairly solid appearance. The brick is layed in straight Flemish bond which is used to form the cut-outs. The brick ends are vertically striated while the stretcher is textured with a cross hatched pattern.

Conduit is buried in the concrete curb which was poured separately from the girders and deck. The light fixtures were originally an "acorn" design. In 1983 a "colonial" design light fixture replaced the original. The original metal posts were not changed. The project to change the fixtures was jointly funded between the villages of East Dundee and West Dundee and the Dundee Business and Professional Association. George McKulski acted as lighting consultant for the project. Mielke-Lauderdale of Elgin was the electrical contractor. West Dundee Village Planner was also involved in the project. A purpose in the lighting replacement was to provide a more aesthetically pleasing, soft glow and provide more light output.(7)

IV. SOURCES OF INFORMATION

A. Original Construction Drawings

The following copies of existing, original construction drawings are available as part of the documentation of the Main Street Bridge:

- Title Sheet with Location Map
- Sheet 1, Elevation and Plan
- Sheet 2, Elevation and Plan showing former bridge
- Sheet 3, Sections and Details
- Sheet 4, Reinforcing Steel Placement Diagrams
- Sheet 5, Reinforcing Steel Configurations

Copies of these drawings as included in this report are available from microfilm in the files of the Illinois Department of Transportation, 2300 S. Dirksen Parkway, Springfield, Illinois 62764.

- B. Martha Sutfin and Louise Osada of the Dundee Township Historical Society Museum at 426 Highland Avenue, West Dundee, Illinois, were especially helpful in providing archival files regarding the Main Street Bridge.
- C. The book Dundee Township: 1835-1985 was a valuable resource in researching the Main Street Bridge. This book was originally published in 1935 as The Romance of Dundee Township, written by Miss Irma Dupre for the Centennial Celebration of Dundee Township. The new book, published in 1985, was researched and written by Beatrice Brittain Braden and Carolyn J. Bullinger. The new work was commissioned by the Dundee Township Historical Society. The publisher for the 1985 edition was Crossroads Communications, Carpentersville, Illinois 60110.

V. PROJECT INFORMATION

The field work, photography and written documentation of the Main Street Bridge in Dundee Township was the work of Michael A. Dixon, AIA of Dixon Associates/Architects in St. Charles, Illinois, under a contract with Hazelet + Erdal, Inc./Consulting Engineers of Chicago, Donald E. Yetter, P.E., Project Manager. The work was performed in May of 1994.

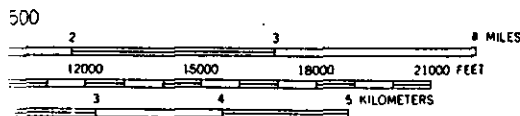
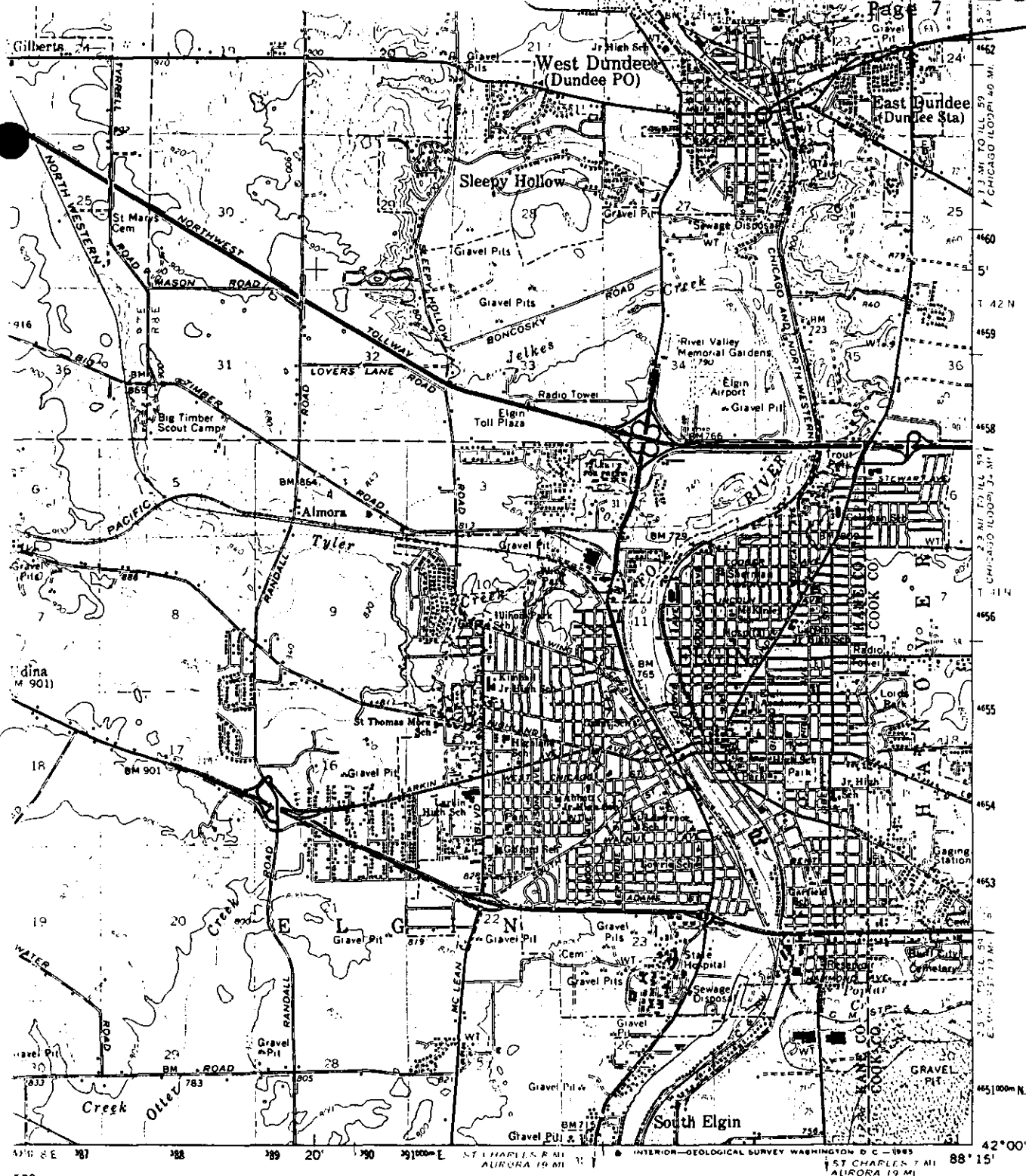
VI. FOOTNOTES

1. Callahan, William J., Cultural Resources Assistant, Resources Protection Services, Division of Preservation Services, Illinois Historic Preservation Agency, as quoted in the Daily Herald, Arlington Heights, Illinois, "Route 72 Bridge Dispute to Span Another Year," December 11, 1992.

2. Dupre, Irma; Braden, Beatrice Brittain; Bullinger, Carolyn J.,
Dundee Township: 1835 - 1985, p. 26.
3. Ibid., p. 27.
4. Zawislak, Mick, staff writer, The Elgin Courier News, Elgin, Illinois,
"History Holds Up Final Decision on Dundee Bridge," October 4,
1992.
5. Ibid., referring to the March, 1917 West Dundee Village Board
meeting.
6. Ibid.
7. The Elgin Courier News, Elgin, Illinois, "New Lights Installed,"
(specific date unknown), 1983.

MAIN STREET BRIDGE

DUNDEE TOWNSHIP ILLINOIS



20 FEET
SEA LEVEL

MAP ACCURACY STANDARDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C.
SURVEY, URBANA, ILLINOIS
SYMBOLS IS AVAILABLE ON REQUEST



QUADRANGLE LOCATION

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt
Interstate Route U.S. Route State Route

This area also covered by 7.5-minute, 1:24 000-scale maps: Crystal Lake 1962, Huntley 1962, Pingree Grove 1962, and Elgin 1962

ELGIN, ILL.
N4200—W8815/15

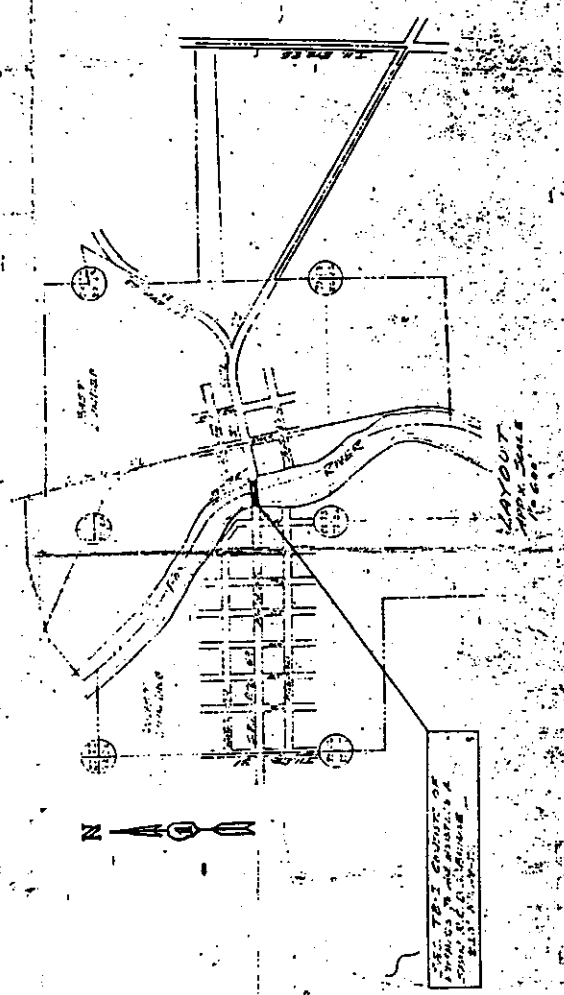
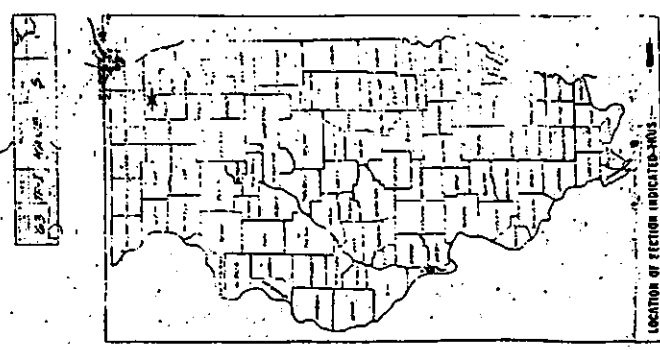
1962

AMS 3368 III—SERIES V763

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
STATE BOND ISSUE HIGHWAY

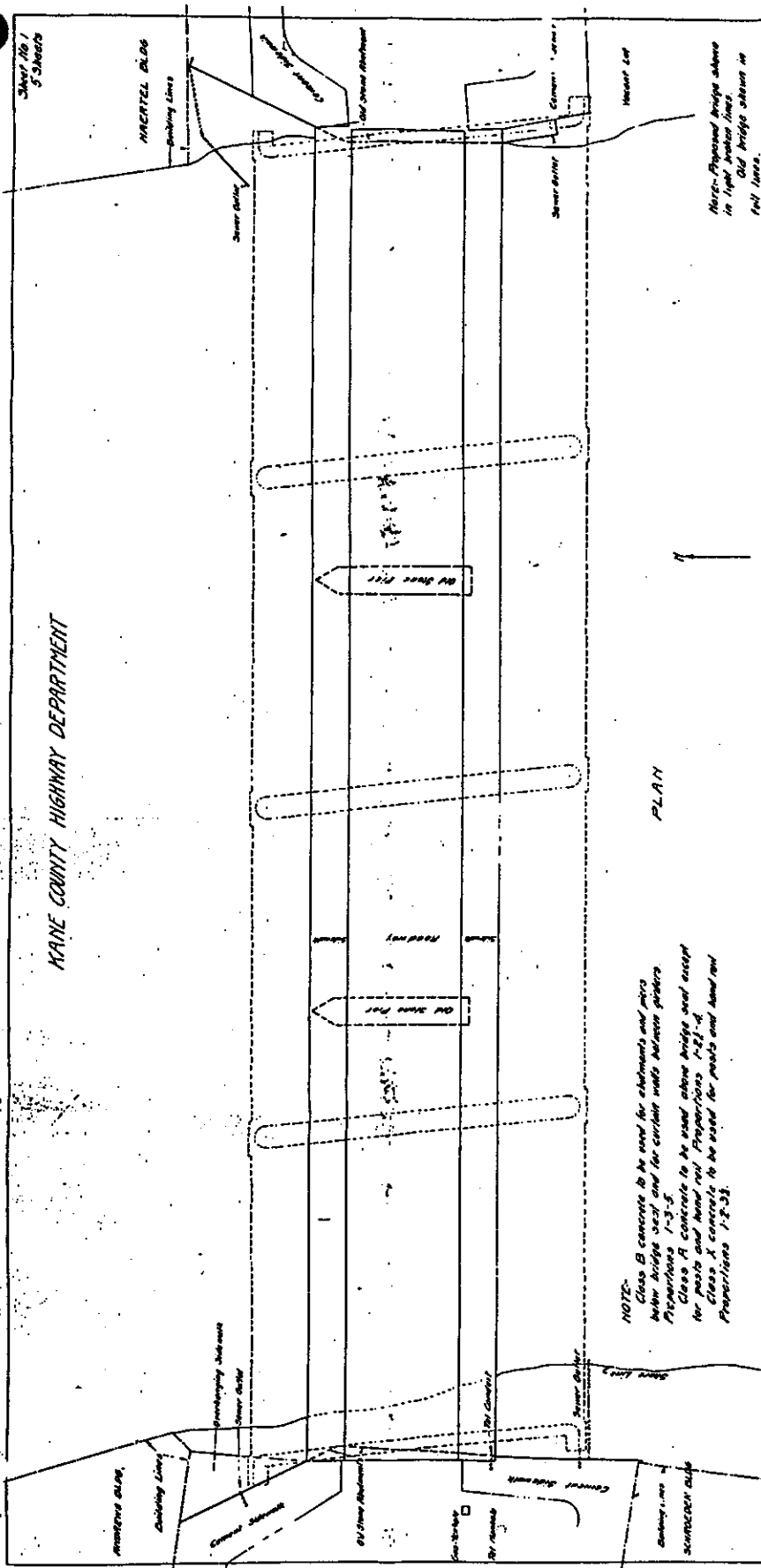
S.B.I. RTE. 63
SEC. TB-1
KANE COUNTY

SCALE: 1" = 1000'



INDEX OF SHEETS
A. F. H. L. 1000'

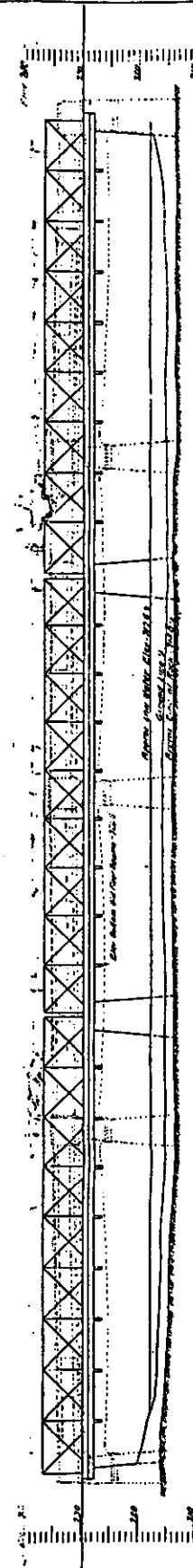
KANE COUNTY HIGHWAY DEPARTMENT



PLAN

NOTE:
Class B concrete to be used for abutments and piers below bridge seat and for certain walls between girders. Proportions 1-3-5.
Class A concrete to be used above bridge seat except for piers and head rail. Proportions 1-2-1-4.
Class X concrete to be used for piers and head rail. Proportions 1-2-3-5.

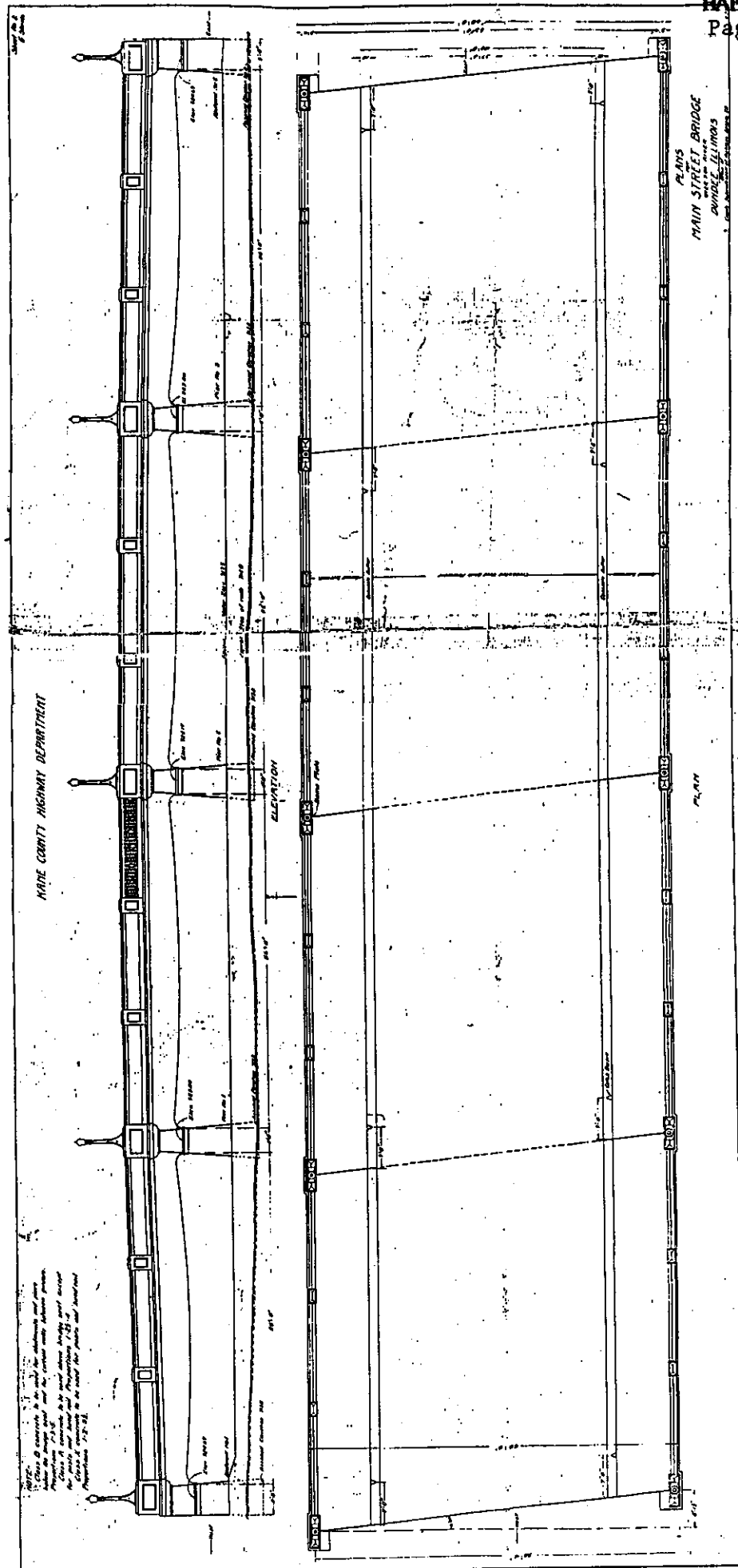
Here: Proposed bridge above in light water lines. Old bridge above in full lines.



ELEVATION

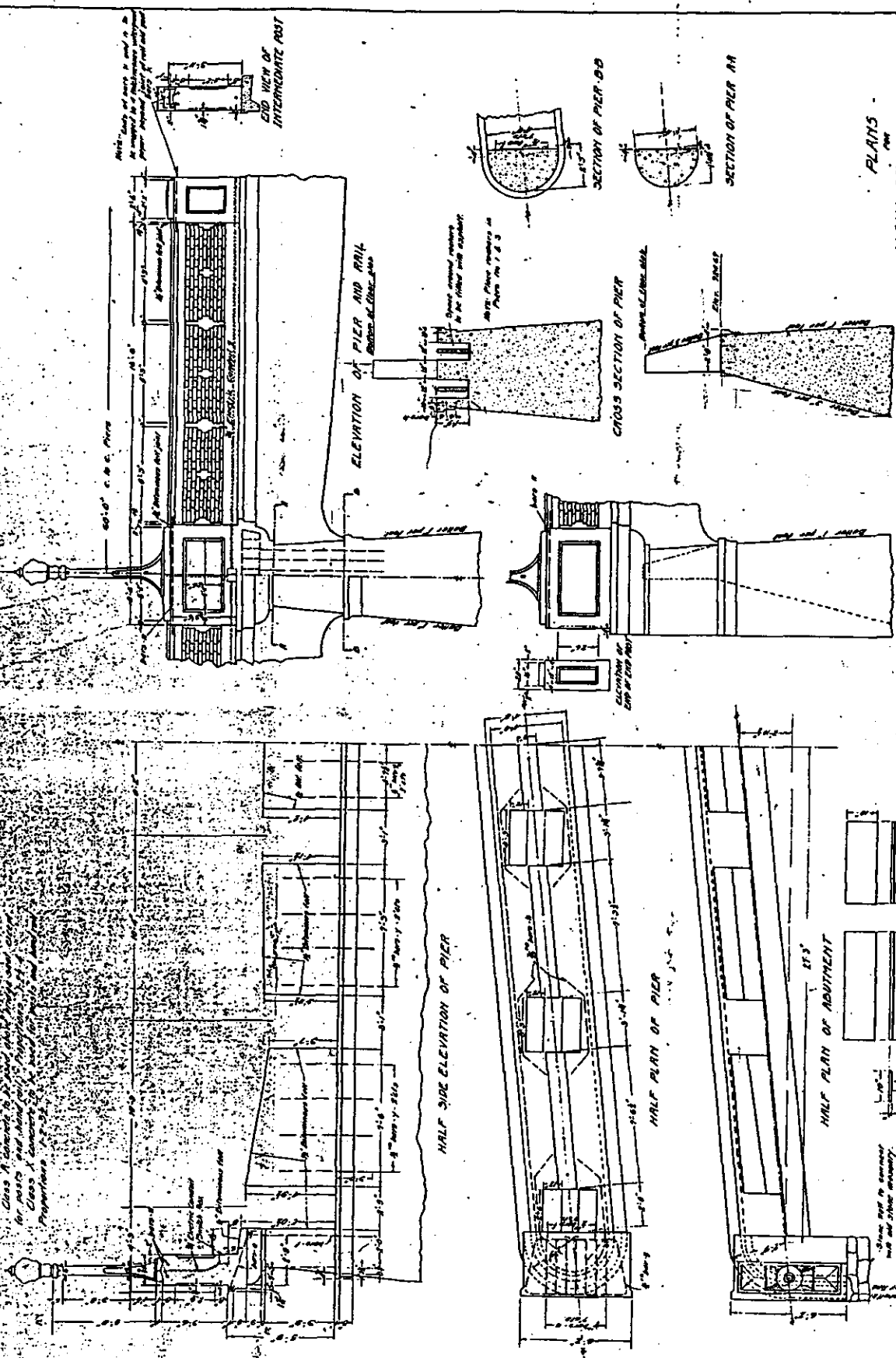
NOTE: All concrete to be made of concrete about 10% of sand, or equivalent. Material of 100% of sand, or equivalent. All concrete to be made of concrete about 10% of sand, or equivalent. All concrete to be made of concrete about 10% of sand, or equivalent.

PLANS
MAIN STREET BRIDGE
DUNDEE, ILLINOIS
KANE COUNTY HIGHWAY DEPARTMENT



Sheet No. 8
of 8 Sheets

PLANE COUNTY HIGHWAY DEPARTMENT

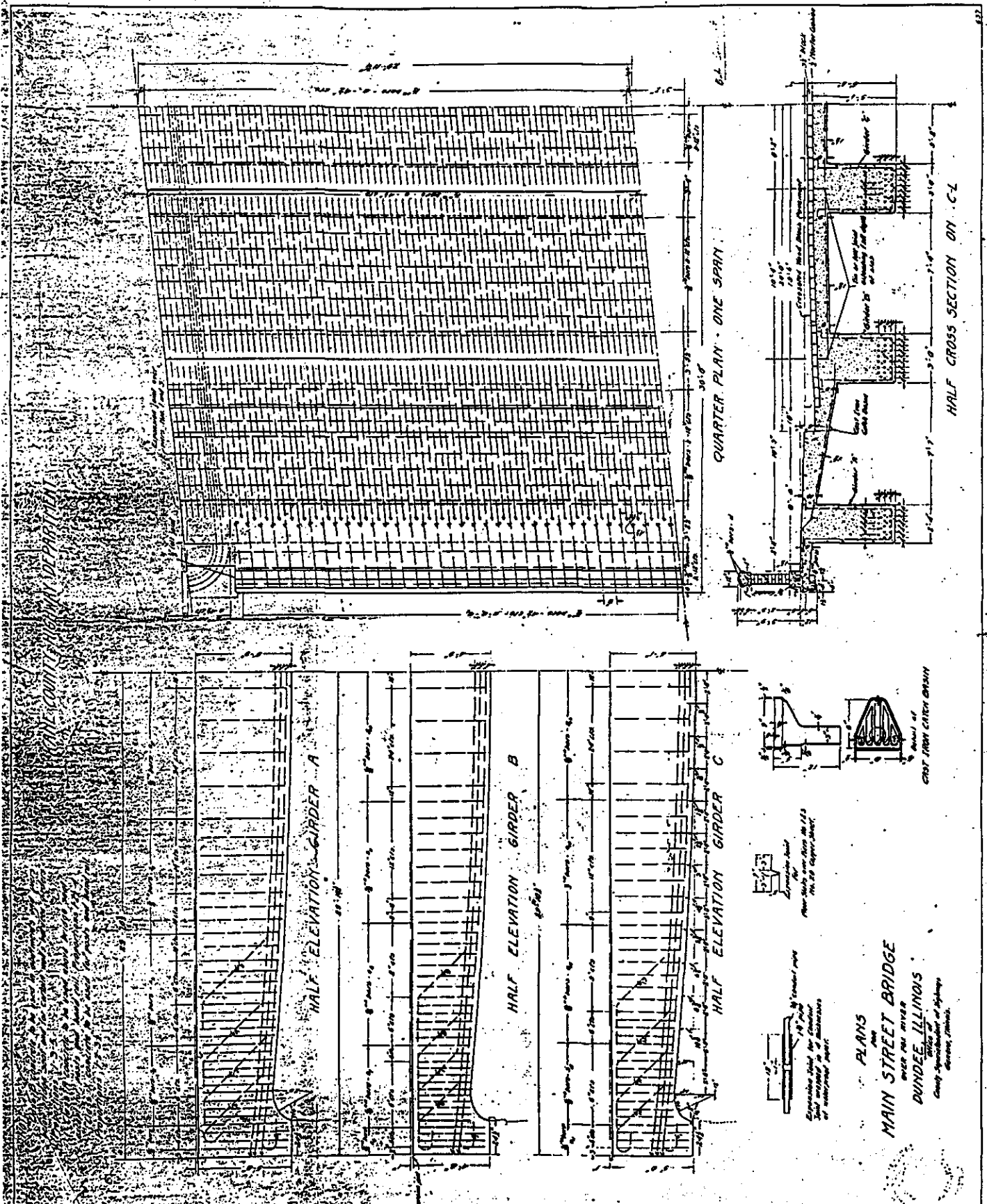


PLANS
MAIN STREET BRIDGE
OVER THE RIVER
DUNDEE, ILLINOIS
Office of
County Engineer, Illinois

CROSS SECTION OF ABUTMENT

END ELEVATION OF ABUTMENT

CAST IRON ROCKERS AND STEEL ROCKER PLATES



PLANS AND ELEVATIONS
MAIN STREET BRIDGE
OVER THE RIVER
DUNDEE, ILLINOIS
County Department of Highways
Dundee, Illinois

KANE COUNTY HIGHWAY DEPARTMENT

